



## CERTIFICATE OF MAILING BY FIRST-CLASS MAIL

I hereby certify that the below identified Applicant's Declaration Under 37 C.F.R. § 1.132 is being deposited as first-class mail this date with the United States Postal Service in an envelope addressed to Commissioner for Patents and Trademarks, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: 6-30-04By: [Signature]

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IN THE UNITED STATES PATENT  
AND TRADEMARK OFFICEPATENT

Applicant: Mengtao Pete He et al.

Docket No.: 29930.5300

Serial No.: 09/974,634

Client Ref:

Filing Date: October 9, 2001

Group Art Unit: 1771

Title: POROUS WICK FOR LIQUID  
VAPORIZERS

Examiner: Hai Vo

APPLICANT'S DECLARATION UNDER 37 C.F.R. § 1.132

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Commissioner:

I, CARL TRIPLETT, declare as follows:

1. I am an inventor of the subject matter described and claimed in United States Patent Application Serial No. 09/974,634, filed October 9, 2001, entitled POROUS WICK FOR LIQUID VAPORIZERS, which subject matter is disclosed and claimed in the above-referenced patent application.

2. Claim 3 of the above-captioned patent application, as currently amended, recites, among other elements, "a void volume ratio on the order of between about 30 to about 35%."

3. I tested various porous plastic wicks and I discovered that a wick having 35% porosity performs much better than one with 40% porosity. For example, the 40% porosity wick demonstrated slower wicking speed (62 minutes vs. 29 minutes to wick 14 cm) and a decrease in structural rigidity. The 40% porosity wick also had a considerably lower perfume evaporation rate (5 mg/hr vs. 29 mg/hr). See attached table with test results.

4. The 35% porosity results are desirable in air freshener embodiments, and the 35% porosity results are significantly different from the results which obtain at 40%. Use of even higher porosity percentages, such as 70-80% porosities results in even poorer performance than the 40% results.

5. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above-referenced patent application or any patent issuing thereon.

Dated: 6/29/2004

Carl Triplett  
Carl Triplett



### Comparison of Porex Porous Plastic with Different Porosities

		Wick material found not to be acceptable	Current Leapfrog wick material
Material Code #		IRM 0595	IRM 0266
Pore Size		15 microns	25 microns
Porosity		40%	35%
Test 1	Time to wick 14 cm	62 minutes  Very slow wicking speed	29 minutes
Test 2	Perfume flow rate (wick to pad)	66 mg/hr  Perfume flow to pad is only about 2x the evaporation which may result in flow rate becoming the rate determining step	435 mg/hr  Perfume flow rate is over 10x that of evaporation rate insuring that evaporation is the rate determining step
Test 3	Perfume delivery at high setting over 12 days	5 mg/hr  Evaporation rate is well below the target rate of 25-30 mg/hr	29 mg/hr  Evaporation rate is on target

Reference: 3581-063 and 3581-073